

IN THE CLAIMS:

1. Canceled

2. (Currently Amended) A magnetic recording medium having a center of rotation and comprising a substrate, a magnetic film layer formed thereon and a protective film layer formed thereon for the protection of said magnetic film layer and composed mainly of carbon, said medium having a Contact-Start-And-Stop (CSS) CSS area and a data area, said CSS area located closer to said center of rotation than said data area, wherein

a thickness A of said the protective film layer in said the CSS area is larger than a thickness B of said the protective film layer in said the data area,

said protective film layer in said the CSS area comprises a plurality of films, an upper film and a lower film, and

said protective film layer comprises a boundary having a specific steepness in the film thickness between said CSS area and said data area,

$(R2 - R1) < 5 \text{ mm}$ where R1 is a radial position measured from said center of rotation to the end of the boundary in the direction of a thickness decrease which corresponds to 90% of the thickness A and R2 is a radial position measured from said center of rotation to the end of the boundary in the direction of a thickness increase which corresponds to 110% of the thickness B,

an A/B ratio is 1.3 or more,

said upper film of said protective film layer in said CSS area and said protective film layer in said data area are amorphous carbon layers,

an amorphous carbon layer is present on the magnetic film layer in the CSS area and the data area, said amorphous carbon layer layers being composed mainly of carbon, a combination of carbon and nitrogen, or a combination of carbon, nitrogen and hydrogen, and wherein

a diamond-like (DLC) layer is present uppermost on said protective film layer in the CSS area, said diamond-like layer said lower film is a Diamond-Like Carbon (DLC) layer being mainly composed of carbon and hydrogen.

3. (Currently Amended) The A magnetic recording medium according to claim 2
~~having a center of rotation and comprising a substrate, a magnetic film layer formed~~
~~thereon and a protective film layer formed thereon for the protection of said magnetic~~
~~film layer and composed mainly of carbon, said medium having a CSS area and a data~~
~~area, said CSS area located closer to said center of rotation than said data area,~~
wherein

~~a thickness A of the protective film layer in the CSS area is larger than a~~
~~thickness B of the protective film layer in the data area,~~

~~said protective film layer in the CSS area comprises a plurality of films, and~~
~~said protective film layer comprises a boundary having a specific steepness in~~
~~the film thickness between said CSS area and said data area,~~

~~$(R2 - R1) < 5 \text{ mm}$ where R1 is a radial position measured from said center of~~
~~rotation to the end of the boundary in the direction of a thickness decrease which~~
~~corresponds to 90% of the thickness A and R2 is a radial position measured from said~~
~~center of rotation to the end of the boundary in the direction of a thickness increase~~
~~which corresponds to 110% of the thickness B~~

~~an A/B ratio is 1.3 or more and the diamond-like layer wherein~~
~~said upper film has a hardness of 19 GPa or more and the said amorphous layer~~
~~has a hardness of less than 19GPa and not less than 16Gpa 15-19 GPa.~~

4. Canceled.

5. Canceled.

6-10. Canceled.

11. (Currently Amended) A magnetic recording medium having a center of
rotation and comprising a substrate, a magnetic film layer formed thereon and a
protective film layer formed thereon for the protection of said magnetic film layer and
composed mainly of carbon, said medium having a ramp load area and a data area, said
ramp load area located closer to said center of rotation than said data area, wherein

a thickness A of the said protective film layer in the said ramp load area is larger than a thickness B of the said protective film layer in the said data area,

said protective film layer in the said ramp load area comprises ~~a plurality of films,~~
an upper film and a lower film, and

said protective film layer comprises a boundary having a specific steepness in the film thickness between said ramp load area and said data area, and

$(R2 - R1) < 5$ mm where R1 is a radial position measured from said center of rotation to the end of the boundary in the direction of a thickness decrease which corresponds to 90% of the thickness A and R2 is a radial position measured from said center of rotation to the end of the boundary in the direction of a thickness increase which corresponds to 110% of the thickness B,

an A/B ratio is 1.3 or more, and

said upper film of said protective film layer in said ramp load area and said protective film layer in said data area are amorphous carbon layers ~~an amorphous carbon layer is present on the magnetic film layer in the ramp load area and the data area,~~ said amorphous carbon layer layers is being composed mainly of carbon, a combination of carbon and nitrogen, or a combination of carbon, nitrogen and hydrogen, and wherein

said lower film is a Diamond-Like Carbon (DLC) layer ~~a diamond-like (DLC) layer is present uppermost on the protective film layer in the ramp load area,~~ said diamond-like layer being mainly composed of carbon and hydrogen.

12. (Previously Presented) A magnetic recording medium according to claim 11 wherein the boundary has a rate of thickness change in the radial direction of 1.0 nm/mm or more.

13. (Currently Amended) The A magnetic recording medium according to claim 11, ~~having a center of rotation and comprising a substrate, a magnetic film layer formed thereon and a protective film layer formed thereon for the protection of said magnetic film layer and composed mainly of carbon, said medium having a ramp load area and a data area, said ramp load area located closer to said center of rotation than said data area, wherein~~

~~a thickness A of the protective film layer in the ramp load area is larger than a thickness B of the protective film layer in the data area,~~
~~said protective film layer in the ramp load area comprises a plurality of films, and~~
~~said protective film layer comprises a boundary having a specific steepness in the film thickness between said ramp load area and said data area,~~
~~(R2 - R1) < 5 mm where R1 is a radial position measured from said center of rotation to the end of the boundary in the direction of a thickness decrease which corresponds to 90% of the thickness A and R2 is a radial position measured from said center of rotation to the end of the boundary in the direction of a thickness increase which corresponds to 110% of the thickness B, and~~
~~an A/B ratio is 1.3 or more and wherein said upper film the diamond-like layer has a hardness of 19 GPa or more, and the said amorphous layer has a hardness of less than 19GPa and not less than 15 Gpa 15-1 GPa.~~

14. Canceled.

15. Canceled.

16-20. Canceled.

21. (Previously Presented) A magnetic recording medium according to claim 2 wherein the boundary has a rate of thickness change in the radial direction of 1.0 nm/mm or more.

22. Canceled.

23. Canceled.